

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

In the Official Action, the Examiner rejects claims 2-18 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2001/0053909 to Nakada et al., (hereinafter “Nakada”) in view of JP 200-116661 to Ouchi (hereinafter “Ouchi”).

In response, Applicants respectfully traverse the Examiner’s rejection under 35 U.S.C. § 103(a) for at least the reasons set forth below. However, independent claim 2 has been canceled and replaced with new independent claim 19. The claims dependent from claim 2 have been amended to change their dependency from claim 2 to new claim 19 and have been further amended, if necessary, to be consistent with new claim 19. Specifically, claim 19 recites a medical instrument system using a diathermic snare and an endoscope in combination with each other, the endoscope including a substantially cylindrical cap section mounted on a distal end of an elongated inserting section which is to be inserted into a body cavity:

wherein the cap section has a flange-shaped projection that projects inward from the inner circumference surface of the distal end;

wherein the diathermic snare comprises:
a flexible sheath;

an operation wire inserted into the flexible sheath to be movable forwards and backwards; and

a snare wire coupled to the distal end of the operation wire;
and

wherein, when the endoscope and the diathermic snare is used in combination with each other, a loop section which expands to one of a substantially circular or elliptical loop when the snare wire is projected from the sheath is formed, the loop section expanding along the inner circumference of the cap section,

the medical instrument system comprising a distal-end projection which projects in the direction that intersects a plane of

the loop at the distal end of the loop section and is fitted on an inner wall of the cap section when the loop section expands along the inner circumference of the cap section.

The addition of new claim 19 is fully supported in the original disclosure.

Thus, no new matter has been introduced into the disclosure by way of the addition of new independent claim 19.

Applicants respectfully submit that the medical instrument system of new claim 19 results in advantages over similar instrumentation used in the prior art, namely, when the endoscope and the diathermic snare are combined, the looping operation to loop the loop section around the cap section is supported by fitting the distal-end projection which is a bent loop section on the inner wall surface of the cap section. In this manner, the distal-end projection of the loop section is prevented from bumping against the inner wall of the cap section, and the loop section can be arranged properly to overlap the flange-shaped projection of the cap section. Consequently, the looping operation of looping the loop section of the diathermic snare around the cap section can easily and reliably be performed.

Turning now to the prior art, Nakada discloses a high frequency snare 16 that is used in combination with an endoscope 3. The high frequency snare 16 has a snare wire 16b that is connected to the distal end of an operation wire which is movable back and forth inside a snare sheath 16a. The snare wire 16b is stored so as to be projectable in the snare sheath 16a, and a loop that widens when the snare wire 16b is projected from the snare sheath 16a is formed. On the distal end of the insertion part 4 of the endoscope 3, an approximately cylindrical cap part 2 of the endoscope hood 1 is mounted. On the distal end of the cap part 2, a flange 7 protruding inwards is provided. Further, when the high frequency snare 16 is used in combination with the endoscope 3, the loop of the high frequency snare wire 16b which is

let out from the snare sheath 16a is configured to be widened and disposed circularly along the inner circumference of the cap part 2.

Ouchi discloses an endoscope high frequency snare in which a tip portion 5 of a snare wire 3 is folded back to the inside of the loop. Further, Ouchi teaches that when ablating a polyp endoscopically by using a high frequency snare for endoscope, a sheath 1 is inserted in a treating device insertion channel of an endoscope, and after slightly tightening the peduncle of the polyp by a snare wire 3, the snare wire 3 is gradually withdrawn into the sheath 1 while a high frequency current is conducted in the snare wire 3 via a control wire 2. The snare wire 3 then narrows while the peduncle of the polyp is cauterized and severed from the outside. As shown in FIG. 2, at the same time as the snare wire 3 sandwiches the peduncle 101 of the polyp from both sides, the tip of the folded-back portion 5 is pressed against the peduncle 101 of the polyp.

Further, as shown in FIG. 3, along with the snare wire 3 being withdrawn into the distal end of the sheath 1, the folded-back portion 5 quickly contacts a blood vessel 102 in the center of the peduncle 101 of the polyp. In this manner, the center blood vessel 102 is reliably cauterized, and the peduncle 101 of the polyp can be severed without causing bleeding."

Nakada teaches a high frequency snare 16 which is used in combination with an endoscope 3. Further, when the high frequency snare 16 is used in combination with the endoscope 3, the loop of the high frequency snare wire 16b which is let out from the snare sheath 16a is configured to be widened and disposed-circularly along the inner circumference of the cap part 2 of the distal end of the insertion part 4 of the endoscope 3.

However, Nakada does not teach a configuration corresponding to the features recited in new independent claim 19, such as “the medical instrument system comprising a distal-end projection which projects in the direction that intersects a plane of the loop at the distal end of the loop section and is fitted on an inner wall of the cap section when the loop section expands along the inner circumference of the cap section”. Therefore, Nakada, does not disclose or suggest the features recited in new independent claim 19, such as when removing a mucous membrane endoscopically by using in combination an endoscope with a cap section fitted on its distal end, when the loop section is disposed expanding circularly along the inner circumference of the cap section, the looping operation to loop the loop section around the cap section is supported by fitting the distal-end projection which is a bent loop section on the inner wall surface of the cap section. In this manner, the distal-end projection of the loop section is prevented from bumping-against the inner wall of the cap section, and the loop section can be arranged properly to overlap the flange-shaped projection of the cap section. Consequently, a looping operation of looping the loop section of the diathermic snare around the cap section can easily and reliably be performed.

Further, Ouchi discloses a high frequency snare for endoscope, in which a tip portion 5 of the snare wire 3 is folded back to the inside of the loop. However, in the high frequency snare of Ouchi, when ablating a polyp endoscopically, after slightly tightening the peduncle of the polyp by a snare wire 3, the snare wire 3 is gradually withdrawn into the sheath 1 while a high frequency current is conducted in the snare wire 3 via a control wire 2. In this operation, at the same time as the snare wire 3 sandwiches the peduncle 101 of the polyp from both sides, the tip of the folded-back portion 5 is pressed against the peduncle 101 of the polyp. In this manner, the folded-back portion 5 quickly contacts a blood vessel 102 in

the center of the peduncle 101 of the polyp to reliably cauterize the center blood vessel 102 and sever-the peduncle 101 of the polyp without causing bleeding. Thus, the purpose of Ouchi is to carry out safe and rapid ablation without mechanically ablating or puncturing the polyp.

For at least these reasons, the tip portion 5 of the snare wire 3 in Ouchi has a function which is completely different from the recited features of the medical instrument system of new claim 19, such as “the medical instrument system comprising a distal-end projection which projects in the direction that intersects a plane of the loop at the distal end of the loop section and is fitted on an inner wall of the cap section when the loop section expands along the inner circumference of the cap section”.

Further, the tip portion 5 of the snare wire 3 in Ouchi is a folded-back portion which is folded back to the inside of the loop on almost the same plane. Therefore, the tip portion has a completely different configuration from that of the distal-end projection section of the snare wire loop section of the medical instrument system of new claim 19, which “projects in the direction that intersects a plane of the loop at the distal end of the loop section”. Accordingly, even if the tip portion 5 of the snare wire 3 of Ouchi were to be arranged on the loop portion of the high frequency snare wire 16b of Nakada, it would be impossible to fit the tip portion 5 of the snare wire 3 of Ouchi along the inner wall surface of the cap part 2 of the distal end portion of the insertion portion 4 of the endoscope 3. In other words, the resulting combination would be inoperable in light of the intended function of the distal end bent portion recited in claim 19.

Thus, even the combination of Nakada and Ouchi does not disclose the features or the advantages resulting therefrom of the medical instrument system of new claim 19.

Independent claims 13 and 16 at least patentably distinguish over the cited references for the same reasons as set forth above with regard to new independent claim 19. In this regard, claim 13 recites:

“a loop section setting step of pushing the sheath to bring the loop section into tight contact with the engagement projection and expanding the loop section circularly along the engagement projection such that a distal end bent section of the loop section bent in a direction that intersects a plane formed by the loop section is disposed at an intersection of the engagement projection and an inner wall of the cylindrical cap section.”

and claim 16 recites:

“a bending portion provided at the distal end of the loop section, the bending portion ending in a direction that intersects a plane formed by the loop section and conforming to a corner of the bending portion of the engagement projection when the loop section expands along the inner circumference of the projection.”

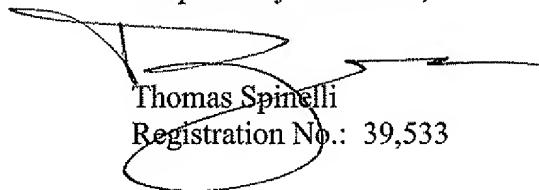
Neither of which are disclosed or suggested in the cited references.

With regard to the rejection of claims 2-18 under 35 U.S.C. § 103(a), independent claims 19, 13 and 16 are not rendered obvious by the cited references because neither the Nakada patent nor the Ouchi patent, whether taken alone or in combination, teach or suggest a medical instrument system having the features discussed above and recited in independent claim 19; a method of assembling a medical instrument system having the features discussed above and recited in independent claim 13 and a diathermic snare having the features discussed above and recited in independent claim 16. Accordingly, claims 2, 13 and 16 patentably distinguish over the prior art and are allowable. Claims 3-7, 11-12, 17 and 18 being dependent upon claims 2, 13 and 16, are thus at least allowable therewith.

Consequently, the Examiner is respectfully requested to withdraw the rejection of claims 2-18 under 35 U.S.C. § 103(a).

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



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